

# CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

WALTER M. DICKIE, M.D., Director

## Weekly Bulletin



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GUY P. JONES  
EDITOR

## RABIES

(Continued from last issue)

In the absence of absolute measures such as practiced in England, where they are able to strike directly at the source of the disease and stamp it out, we have necessarily followed in the wake of the disease, chasing and impounding the rabid dogs, usually after many people and many dogs have been bitten, quarantining all known and probable dog contacts, cauterizing wounds of those bitten and administering prophylaxis. This procedure is expensive and unsatisfactory but is the only alternative and as such is carried out as best we can as follows:

The California State law requires the reporting of dog bites. When such a report is received at any one of our twelve health centers distributed throughout the county, a trained sanitary inspector visits the person bitten and the alleged dog owner, if he can be located, for the purpose of securing such preliminary information as may be available. However, experience shows that much of the information thus obtained is notoriously unreliable, the person bitten often exaggerating and the dog owner frequently understating the conditions under which the bite was inflicted.

It is the primary function of the inspector to impound or otherwise isolate the biting dog. Manifestly rabid animals are killed and the head sent to the Health Department laboratory.

When a dog is apparently healthy he is kept under observation for ten days and if normal at the expira-

tion of that period he is released to the owner. For the guidance and peace of mind of the persons bitten they are informed when it has been determined that the animal is free from rabies.

However, where bites are severe and especially when they involve the face or when the bite has been inflicted by a stray dog that can not be located, the necessity for Pasteur prophylaxis is emphasized.

When the person bitten declines to receive the prophylaxis, he is required to absolve the department, in writing, from responsibility resulting from neglect. Of course, when the bite has been inflicted by a manifestly rabid animal or even one suspected of having rabies, the Pasteur prophylaxis is considered imperative.

A rabid animal usually lives five or six days, and the saliva may be infective three or four days before clinical symptoms are manifest. The microscopic evidence of rabies, the Negri bodies, appears but little earlier than the clinical symptoms. When this evidence in the brain is lacking, a portion of the brain may be injected into test animals. However, this test requires from two to four weeks for its completion. Consequently, an animal should not be killed before clinical manifestations are apparent.

Cauterization of animal bites should be done as soon as possible after the bite has been inflicted. Fuming nitric acid is the only effective cauterizing agent. The acid should be applied from the point



of a tapering glass rod or drop by drop from a capillary pipette so that the quantity may be regulated. Special thoroughness should be exercised in cauterization of face bites as oftentimes the incubation period is so short that immunity can not be established by the Pasteur prophylaxis and, unless the cauterization has been thorough and complete, the patient will develop rabies.

The two following instances which occurred recently may be of interest:

Eva Sarkwell, age 3½, white, female, living on Sutton Street, Van Nuys, California, was bitten by a stray rabid dog May 21, 1935. Dog killed and Los Angeles City Laboratory found intracellular and extracellular Negri bodies, thus confirming the clinical diagnosis of rabies. The child was badly bitten about the face as follows: "2 lacerations around the right eye; 2 lacerations right cheek; 4 lacerations of scalp extending down forehead." Cauterization with fuming nitric acid was done within an hour. Anti-rabid (Semple) treatment was started the same day patient was bitten, May 21st, two doses daily for 14 days—28 doses. On June 11th—patient slightly irritable; on June 12th patient seemed improved; on June 14th—patient again became irritable and refused food—very nervous—displayed great anxiety—extreme sensitiveness to light and sound—excessive salivation—difficulty in swallowing; on June 17th patient developed convulsions and died. Autopsy was performed. Laboratory examination of brain by Dr. M. E. Betten showed "Intracellular Negri bodies"—"Extracellular Negri bodies." Animal inoculation—Los Angeles City Laboratory—"Rabbit inoculated intradurally died of rabies in 13 days." "Rabbit inoculated intramuscularly died of rabies in 18 days." Brain material from both rabbits showed Negri bodies. Data from report of M. E. Betten, M.D., Director of Los Angeles City Health Department Laboratory.

Alfred E. Yoder, July 25, 1932, bitten on face. No nitric acid used. Pasteur treatment started immediately. Sixteen doses given in 11 days following the bite. August 19th—onset of illness—difficulty in swallowing—gradually became worse. August 23d, died in convulsions.

Pasteur prophylaxis should be administered to the following classes of persons and under the conditions stated:

1. To persons bitten by animals proved rabid either by clinical or microscopic examination of the brain.
2. To persons who have not been bitten but whose hands or face have been contaminated with saliva of a rabid animal, provided there is evidence of open lesions on the skin. This provision has been very expensive in a number of

instances, the most striking of which was an exposure in a CCC camp harboring a pet pup, from a litter in which the mother had rabies, that exposed some 75 people, all of whom received Pasteur prophylaxis. The 62 CCC men were hospitalized at the Federal hospital. The cost of this experience was estimated at \$7,000. We could relate many other similar experiences.

3. To persons bitten by stray dogs which can not be located—a precautionary measure.
4. Pending the laboratory examination of the brain of a biting animal, the symptoms or actions of which are suspicious, the bitten person should begin the prophylaxis as a precautionary measure.
5. Because of the many nerves in the face, hand and neck, and the proximity to the brain, bites on these parts should be regarded as particularly dangerous, even though the presence of rabies is not definitely established. In such instances the prophylaxis should begin promptly and be continued with regularity.

Pasteur antirabic prophylaxis—Semple modification:

The material used in the Los Angeles County Health Department is a virus vaccine prepared by the Semple method. It consists of a 4 per cent emulsion of killed rabies fixed virus from the brains of rabbits. The virus is killed by incubating the phenolized emulsion for 24 hours at 37 degrees C. Tests are made on susceptible animals to prove the absence of virulent virus. The Pasteur prophylaxis is not curative and is valueless after rabies has developed. The preventive course consists of daily injections for fourteen days. Persons bitten on the head or neck by rabid animals may be given 21 or even 28 doses. The extra injections are suggested as a "precautionary measure," even though there is no evidence that more than fourteen doses are necessary. Each of the fourteen prescribed doses of vaccine is the same 2 cc. Children receive the same dosage as adults. The injections are given into widely distant subcutaneous tissues of the anterior abdominal wall, a cooled sterile syringe being used. The interval between doses should be about 24 hours. While the patient is receiving the prophylaxis, general hygienic procedure should be followed. Some local soreness, together with erythema about the site of the puncture, may occur. Slight malaise may also be noted. Unusual symptoms, such as neuritis, call for prompt investigation of experts of the Health Department. Post vaccinal paralysis is rare, especially with the killed virus.

In McKendrick's report in the League of Nations' Quarterly Bulletin of December, 1934, there were 80 instances among 406,196 persons receiving prophylaxis.



laxis, a percentage of 0.02, with 19 fatalities. "It appears that the liability to accident after treatment by live vaccine is four times as great as after treatment by killed vaccines, and eleven times as great as treatment by heated vaccines."

We have had one case in our series (2216)—not a postvaccinal case but one in which paralysis developed before the completion of the course. History is as follows: Philip Hull, age 18, bitten on left cheek by rabid dog on October 16, 1932. Wound immediately cauterized with nitric acid and one dose of Pasteur prophylactic (Semple) given that day and two doses on succeeding days until 23 doses were given, at which time (October 30th) treatment was discontinued, due to development of the following symptoms: some nausea and vomiting, tingling of arms and legs, tired, weak in legs—unable to raise the arms due to deltoid paralysis. Patient was afebrile at all times. When seen by me on November 1st pulse and respiration were normal, Patellar reflexes normal—complained of tingling of legs—hands cold and clammy—deltoid paralysis—bilateral but no evidence of involvement of the cranial nerves. Condition remained about the same until November 7th, when facial motor paralysis developed. Conditions gradually improved and on December 26th, when last seen by me, deltoids and legs were O. K. but facial paralysis still in evidence.

Mortality from Rabies—Statistics show that, with but one exception, 1928, the annual number of deaths from rabies in the United States registration area for 1909 to date is less than 100. The total number of deaths in California during that period, from 1909 to date, is 82, and for the Los Angeles entire area, 32.

The number of deaths being so low in comparison with deaths from other communicable diseases has afforded opposing agencies with excellent ammunition, which they have used effectively in blocking *regular* control measures and creating public indifference.

(Continued in next issue)

### THE "COLD" SEASON

The usual upward peak for colds begins in October and advances rapidly during the cold winter months. With mild fall weather colds may be delayed somewhat as more fresh air is allowed access to the houses and there is less sudden change from indoor temperature to outside.

Another factor in the prevalence of colds at this season of the year may be a possible change in diet, from one abundant in vegetables and fruits which prevail in the summer season to one more starchy

which is apt to be used in the winter time. The arrival of the holiday season with the usual excessive repasts may be another contributing factor in the coincidence of colds at this time.

Probably one of the most important factors, too, is the fact that groups are more closely congregated during the winter months, and so the cold germs (unknown though they still are) can be passed from one to another more rapidly through coughing or sneezing or by just "handing" them to one another.

Colds should not be taken lightly, though they cause only small discomfort at the time. Colds that are not given proper attention may quickly develop into more serious diseases such as influenza or pneumonia. Colds lessen a person's resistance and give the germs of such diseases an excellent chance to grow and before one knows it—presto! it is pneumonia and not a simple little cold.

So colds should be avoided by:

1. Keeping one's resistance high by avoiding over-exertion, getting a fair share of rest, and watching the balance of foods so that fruits and vegetables, especially the green and yellow ones and eggs, milk and butter are not crowded out by too much starchy food.
2. Keeping the temperature of home and office not over 70° Fahrenheit.
3. Keeping away from those who have colds.
4. Dressing sensibly—not bundled up too much, nor too lightly dressed, and taking advantage of protecting rubbers or overshoes when rainy, snowy or sloppy weather prevails. Colds are apt to develop in the wake of wet feet.

The "sniffle stage" of a cold is the warning signal for you to do something about it at once. This is likely to be the time when colds are most catching, so one should stay at home during this period, at rest in bed if possible. Those who adhere to this rule are the ones who run less danger of developing pneumonia. At the same time this protects others.

Colds are not trivial affairs. Much valuable time is lost yearly by the one or two colds that most people have each year—this is an economic loss to every community. The potential danger of colds must be reckoned with—prolonged medical and nursing care and possible death if pneumonia or influenza should develop.

Avoid colds—but if colds develop take care of them.—*Connecticut Health Bulletin*.

Interest of any kind produces concentration naturally. . . . People dominated by one great passion . . . live in their mastering purpose.—Ernest Dimnet: *The Art of Thinking*.—Leon J. Richardson.



## MORBIDITY

Complete Reports for Following Diseases for Week Ending  
December 7, 1935

## Chickenpox

645 cases: Alameda County 12, Alameda 2, Berkeley 21, Emeryville 4, Oakland 37, Gridley 22, Oroville 2, Colusa 5, Contra Costa County 19, Hercules 5, Pinole 6, Walnut Creek 8, El Dorado County 1, Fresno County 27, Fresno 8, Kings County 6, Hanford 5, Los Angeles County 40, Alhambra 6, Beverly Hills 1, Burbank 1, Compton 3, Culver City 5, El Monte 1, Glendale 6, Long Beach 1, Los Angeles 65, Monrovia 1, Montebello 3, Pasadena 4, Pomona 2, Santa Monica 6, South Pasadena 1, Whittier 3, Madera County 4, Marin County 1, King City 1, Napa 2, Orange County 22, Orange 4, Santa Ana 18, Placentia 1, Riverside County 12, Beaumont 8, Sacramento 19, Redlands 3, San Bernardino 4, San Diego County 26, Escondido 2, La Mesa 1, National City 1, San Diego 38, San Francisco 23, San Joaquin County 2, Lodi 1, Manteca 1, Stockton 14, San Luis Obispo County 7, San Luis Obispo 4, Burlingame 7, Santa Barbara County 1, Santa Barbara 11, Santa Maria 5, Santa Clara County 1, San Jose 3, Santa Cruz County 1, Sierra County 2, Vallejo 2, Stanislaus County 5, Oakdale 2, Dinuba 1, Ventura County 15, Santa Paula 7, Ventura 3, Yolo County 2, Woodland 19.

## Diphtheria

62 cases: Alameda County 2, Hayward 1, Oakland 3, Fresno County 1, Imperial County 1, Los Angeles County 6, La Verne 2, Long Beach 1, Los Angeles 19, Pasadena 1, Soledad 2, Anaheim 1, Orange 1, Santa Ana 1, Riverside 1, Sacramento 3, San Bernardino 3, San Diego 3, San Francisco 3, San Joaquin County 1, Santa Barbara 1, Palo Alto 1, San Jose 2, Stanislaus County 1, Ventura County 1.

## German Measles

80 cases: Alameda County 2, Berkeley 2, Hayward 1, Oakland 3, Contra Costa County 13, Richmond 1, Walnut Creek 1, Placerville 1, Fresno County 5, Kings County 1, El Segundo 1, Glendale 2, Long Beach 1, Los Angeles 6, Pasadena 1, Orange County 2, Orange 1, Santa Ana 3, Tustin 7, Riverside 2, Sacramento 1, San Diego County 2, El Cajon 1, La Mesa 1, San Diego 1, San Francisco 12, San Joaquin County 1, Menlo Park 1, Santa Clara County 1, Palo Alto 3.

## Influenza

30 cases: Berkeley 3, Oakland 1, Los Angeles County 2, Los Angeles 15, Riverside County 2, Sacramento County 1, San Diego 2, San Francisco 2, San Joaquin County 1, California 1.\*

## Measles

244 cases: Alameda County 7, Alameda 1, Berkeley 3, Oakland 9, Piedmont 2, Butte County 1, Oroville 5, Contra Costa County 3, Coalinga 1, Imperial County 1, Los Angeles County 5, Beverly Hills 1, Hermosa 3, Long Beach 2, Los Angeles 25, Monrovia 1, Pomona 3, Redondo 2, Torrance 1, Lynwood 2, South Gate 1, Madera County 14, Madera 4, Sausalito 6, Alturas 4, Monterey County 6, Monterey 1, Pacific Grove 1, Soledad 1, Salinas 5, Riverside County 2, Riverside 5, National City 1, Oceanside 1, San Diego 3, San Francisco 38, San Luis Obispo 1, San Mateo County 1, South San Francisco 4, Menlo Park 1, Lompoc 1, Santa Maria 1, Santa Clara County 1, Mountain View 3, San Jose 1, Santa Clara 1, Sunnyvale 1, Sutter County 1, Ventura County 9, Ventura 1, Yolo County 15, Woodland 30, Yuba County 1.

## Mumps

323 cases: Alameda County 1, Berkeley 3, Oakland 22, Piedmont 14, Colusa County 7, Colusa 1, Pinole 1, Richmond 3, Fresno County 6, Fresno 5, Orland 1, Humboldt County 1, Kern County 16, Lassen County 4, Los Angeles County 18, Alhambra 1, Claremont 3, Long Beach 5, Los Angeles 8, Pasadena 2, Pomona 8, Santa Monica 2, Sierra Madre 2, Whittier 1, Signal Hill 3, Monterey County 4, Monterey 1, Salinas 13, Orange County 1, Fullerton 1, Orange 1, Santa Ana 3, Placer County 1, Beaumont 3, Corona 44, Riverside 4, Sacramento 29, Ontario 2, San Diego County 9, Escondido 3, San Francisco 2, San Joaquin County 7, Stockton 12, San Luis Obispo County 2, San Luis Obispo 8, Santa Barbara 1, Santa Clara County 4, San Jose 9, Santa Cruz 1, Siskiyou County 3, Stanislaus County 4, Newman 3, Patterson 3, Sutter County 1, Tulare County 1, Dinuba 1, Ventura County 1, Yolo County 2, Woodland 2.

## Pneumonia (Lobar)

109 cases: Oakland 5, Contra Costa County 1, Fresno County 2, Fresno 1, Reedley 1, Bakersfield 2, Los Angeles County 11, Covina 1, Huntington Park 1, Inglewood 2, Long Beach 1, Los Angeles 30, Monrovia 2, Pasadena 4, Pomona 1, Maywood 2, Merced 1, Salinas 1, Riverside County 2, Riverside 1, Sacramento 1, San Bernardino 2, San Diego County 1, San Diego 2, San Francisco 21, San Joaquin County 4, Stockton 3, Palo Alto 1, San Jose 1, Stanislaus County 1.

## Scarlet Fever

317 cases: Alameda County 3, Alameda 1, Berkeley 1, Oakland 4, Piedmont 6, San Leandro 1, Butte County 1, Contra

Costa County 3, El Cerrito 1, Richmond 3, Fresno County 6, Fresno 3, Imperial County 1, Kern County 4, Kings County 2, Los Angeles County 28, Alhambra 8, Avalon 1, Compton 4, Glendale 4, Huntington Park 3, Long Beach 12, Los Angeles 48, Manhattan 2, Pasadena 2, Pomona 1, Santa Monica 1, Whittier 3, Lynwood 2, South Gate 1, Monterey Park 2, Signal Hill 2, Bell 2, Madera 6, Merced County 2, Soledad 1, Napa County 1, Calistoga 2, Nevada County 1, Grass Valley 3, Orange County 4, Orange 1, La Habra 1, Riverside County 6, Hemet 1, Riverside 1, Sacramento 25, Ontario 1, San Bernardino 7, San Diego County 7, El Cajon 1, La Mesa 1, National City 1, San Diego 9, San Francisco 25, Stockton 4, San Luis Obispo County 1, San Mateo County 2, Burlingame 1, Redwood City 1, San Mateo 1, Santa Barbara 2, Santa Maria 2, Santa Clara County 1, San Jose 3, Santa Cruz County 1, Solano County 1, Stanislaus County 2, Turlock 3, Tulare County 4, Ventura County 2, Oxnard 2, Santa Paula 1, Ventura 3, Yolo County 5, Woodland 1, California 1.\*

## Smallpox

5 cases: Richmond 1, Monterey County 4.

## Typhoid Fever

6 cases: Contra Costa County 1, Los Angeles County 1, Sacramento 1, San Joaquin County 1, Santa Paula 2.

## Whooping Cough

145 cases: Alameda 3, Berkeley 9, Oakland 9, Contra Costa County 5, Fresno County 9, Los Angeles County 13, Beverly Hills 2, Compton 1, Huntington Park 3, Long Beach 13, Los Angeles 14, South Gate 1, Soledad 1, Sacramento 9, San Bernardino 3, San Diego County 1, National City 2, San Diego 11, San Francisco 20, Stockton 3, Tracy 4, San Luis Obispo County 4, San Jose 3, Santa Cruz 2.

## Meningitis (Epidemic)

2 cases: Los Angeles 1, San Francisco 1.

## Dysentery (Bacillary)

2 cases: Los Angeles County 1, Los Angeles 1.

## Pellagra

2 cases: San Francisco.

## Poliomyelitis

6 cases: Kern County 1, Los Angeles 1, Sacramento 1, San Luis Obispo County 3.

## Tetanus

One case: South Gate.

## Trachoma

5 cases: National City 4, Santa Barbara County 1.

## Encephalitis (Epidemic)

2 cases: San Francisco 1, Vallejo 1.

## Food Poisoning

7 cases: Oakland 1, Los Angeles County 6.

## Undulant Fever

2 cases: Beverly Hills 1, Soledad 1.

## Septic Sore Throat (Epidemic)

3 cases: San Francisco 1, South San Francisco 2.

## Rabies (Animal)

19 cases: Calexico 1, Los Angeles County 2, Culver City 1, Los Angeles 10, San Diego County 1, Stockton 2, Tracy 1, Dinuba 1.

\* Cases charged to "California" represent patients ill before entering the State or those who contracted their illness traveling about the State throughout the incubation period of the disease. These cases are not chargeable to any one locality.

Civilization can not be voiced through one language, nor seen from a single point of view, whether national or individual. Explore, therefore, the literature of more than one age and of more than one nation. Better than reading about a book is reading the book.—Leon J. Richardson.

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